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XXIII.—*Jottings on Birds from my Amoy Journal.* By ROBERT SWINHOE, Her Majesty's Consul, F.Z.S. &c.

[Continued from p. 237.]

ON the 3rd November 1866 I received from Mr. T. Watters, Acting-Consul at Taiwan (Formosa), a pair of Kestrels in immature or banded plumage. The male has the legs and toes fine orange, with black nails, the cere and orbit orange-yellow. The female has the cere whitish, tinged with yellow, and the eyelid whitish yellow; her legs and feet are yellow, only tinged with orange. Both have rich brown irides. In this plumage they answer well to the Amoy Kestrel, the males of which in a similar manner have the soft parts more brightly tinted than they are in the females.

November 11th.—Up the river that leads to the city of Chang-chow-foo. It was high tide, and the marshes were covered. The Ducks sat about in small parties; but they were wild, and the boat jumped about so on the waves raised by the strong north-easter that it was impossible to aim straight enough for a cartridge to do effective work. I observed a bird like a large black Swallow skimming about, occasionally alighting and floating on the water, and saw at once that it was a Petrel. The first two shots missed; but it showed no alarm,

and settled again at no great distance, when a charge of dust fetched it. It was a Petrel, true enough, but with the body of a nearly uniform sooty colour, and with only one opening to its nose. But for this last character, I would place it under Bonaparte's *Thalassidroma melania* (Consp. Av. ii. p. 196), though that species is described as having a very short tail. Gray's 'Genera of Birds' gives the type of *Thalassidroma* with a double nostril; and I cannot find it anywhere stated that any of the known species has only one nasal opening. In *Procellaria glacialis*, however, I see this peculiarity occurs. I therefore propose to bring forward our bird as

THALASSIDROMA MONORHIS, sp. nov.

Length 7·3 in.; wing 6 in.; tail 2·9 in.; wing extending beyond tail about ·5 in. Iris rich brown. Bill black, nostril with only one hole apparent at the end of the tube. Inside of mouth flesh-colour. Tongue flat and broadly sagittate, furrowed down the middle and on either side. Legs black, the inner side of inner toe and both sides of middle toe whitish near their bases. Tibia bare for nearly ·34 in.; tarse nearly ·92 in.; middle toe and claw ·83 in. Wings much curved near the tip. Tail furcate, inclined upwards at its sides, especially at the fork, and consisting of twelve rectrices, of which the outer feather is ·6 in. longer than the middle. Head and neck deep ashy-grey, lighter on forehead and round bill. Upper parts sooty-brown, washed with grey, the scapulars and upper tail-coverts having darker shafts. Lesser wing-coverts, quills, and tail brownish-black, blacker on the two first. Greater wing-coverts light greyish-brown, broadly margined with white. Under parts deep soot-colour tinged with brown, blacker on under-wing and under tail-coverts. The latter are as long as the middle rectrices. The quills are white at their bases. It had a strong musky odour, like the Albatros, and like that bird was found to support two species of lice of the genera *Lipeurus* (Nitzsch) and *Docophoroides* (Denny).

On dissection the cluster of eggs showed this specimen to be a female. *Trachea* broad and simple, with a pair of sternotracheal muscles; at the junction with the *bronchi* broad, and peaked in front, without muscles. *Bronchi* short and broad,

without convolutions. Lobes of liver small, and not extending over the belly. Belly enveloped in white fat. Proventricular sac very large and fleshy, empty, with a small pea-like pit or stomach proper with an adhering *epithelium*, containing a little greenish-yellow *exuviae* of marine seeds like duck-weed, some black specks, and one small limy grit. Intestines .2 in. thick at *duodenum*, .1 in. thick for rest of length; total length 7 inches; one small *cæcum* almost touching the *cloaca*.

This is the first Petrel that I have met with in China. Dr. Jerdon states (B. of Ind. iii. p. 827) that Stormy Petrels have been seen at the mouth of the Ganges, but that he had procured no specimens. The species noted from Eastern Asia (Kurile Islands) by Pallas (Zoog. R.-As. ii. pp. 315, 316) are *Procellaria pelagica* and *P. orientalis*; the former seems to be *Thalassidroma leachi*, Temm., and the latter, *T. furcata* (Gmel.). Von Schrenck (Reis. Amurl. i. p. 515) obtained the former from the Kurile Islands. Ours adds a third species to this region.

During the same excursion I shot a large Egret, *Herodias alba*, in the unadorned winter plumage. The bird was a male and had its bill and cere orange-yellow, and its legs entirely black, without the light tibial ring of the hot season.

Dr. H. Giglioli, who is now in China in the Italian Frigate 'Magenta,' called my attention to the fact that our black *Mina* is not the *Acridotheres cristatellus* (L.) of Bonaparte's 'Conspectus.' This I had observed myself before; but not having a copy of Linnæus's 'Systema Naturæ' by me, I was unable to ascertain whether his description did not refer to the Chinese bird. Bonaparte (*op. cit.* i. p. 419) under *A. cristatellus* (L.), gives "*crisso caudaque ad apicem albis*," "ex Bengal." I can find no such bird in Jerdon's 'Birds of India'; but Bonaparte may in this general term "Bengal" have included the Tenasserim Provinces; and if his description agrees that of Linnæus, then the true *A. cristatellus* (L.) is probably the bird from Siam, which I have called *A. siamensis* (P. Z. S. 1863, p. 303); and the Chinese Philippine bird will have to stand, according to Bonaparte (*loc. cit.*), as *A. philippensis* (Temm.), given as "*ex Ins. Philipp. Macao*," "*tectricibus caudæ inferioribus nigris, albo-marginatis nec albis*." Unfortunately, however, tradition

says that the *Mina* in the Philippines was introduced by the Spaniards from China (Amoy). In such case the specific name would scarcely be applicable.

Nov. 15th.—My hunter brought me a female Shoveller, *Rhyachaspis clypeata*. Length 18·25 in.; wing 9 in. Tongue yellowish flesh-colour. Bill yellowish olive-brown, the lower mandible, the *laminae*, and basal two-thirds of the upper mandible about its edge being orange. Iris bright yellowish-brown. Legs fine deep orange, the interdigital webs, except along edges near the toes, being blackish.

Nov. 19th.—A friend sent me a Falcon shot in the act of eating a Sandpiper, which he was seen to catch. *Falco peregrinus*, ♂. Length 17 inches; wing 12·75 in.; tail 6·75 in.; tarse 2·1 in., feathered for nearly ·75 in.; middle toe 2 in.; its claw ·7 in. Legs and toes yellow with a greenish tinge; claws blackish-brown. Irides blackish-brown. Skin round the eye and cere bluish-white with a very faint tinge of green. Bill bluish-white tinged with purple, blackish on its apical half. Plumage spotted, striped, and margined, as of a bird in first year's dress.

I think I was wrong in referring the specimen of the Godwit I took to England to *Limosa uropygialis*. At least, one that I have now before me seems distinctly to be *L. lapponica*, ♂. Entire length 14·5 in.; bill 3·25 in. Legs extending beyond tail only 1·33 in. Wing 7·75 in., the end of tertiaries reaching to within 1 inch of tip of quills. Bare part of tibia 1·25 in.; tarse 2·1 in.; middle toe and claw 1·4 in., claw of middle toe bulging inwardly and falcated. Legs lead-colour, claws black. Bill flesh-colour, apical half of the lower mandible and the upper from beyond nostril to tip being brownish-grey. Irides deep brown. Lower neck and breast retaining some of its summer rufous tint. This species cannot be the *L. uropygialis*; for its rump and upper tail-coverts have the feathers centred with blackish-brown oval spots, as in *L. lapponica*, and are *not barred*. Tail 3·1 in. long, consisting of twelve barred feathers, the two middle ones mucronate. Male, by dissection. Proventriculus large and broad, contracting as it meets the stomach. Stomach somewhat heart-shaped, about ·8 in. broad by 1 in. long, with

strong thick lateral tendons. Epithelium leathery, yellowish, containing small angular pebbles and a few small crabs. Intestine 33 in. long, from '3 to '4 in. thick; two adnate cæca occur on it about 1 in. from the anus, these are '6 in. long by '2 in. thick. About 12·5 in. from anus occurs the cæcal appendage, curled like a worm, and about 1 in. long. Two small, black, narrow testes, '3 in. by '1 in.

In Selby's 'Illustrations of British Ornithology' (ii. p. 145) it is said of Temminck's Stint, "The Linnæan species (i. e. *Tringa pusilla*) is further described as '*corpore subtus rufescente*;' that is, with the under parts of the body rufous or reddish—a character by no means applicable to the *T. temminckii* at any period, or change of plumage, but which is so to another exotic species." The writer does not say to what exotic species. If to the *T. albescens*, it is well applied, and suits better than that name. If to the American Lesser Stint, then the American approaches in this red change of plumage to our eastern *T. albescens*, and leaves *T. minuta* to stand with *T. subminuta*, which two last in summer have spotted, and not red breasts.

Nov. 30th.—Among some birds brought by my Amoy hunter was a Shore-Pipit, of the form described by me as *Anthus blakistoni* (P. Z. S. 1863, p. 90). This is new to the Amoy list. The collection also contained a *Budytes*, which has the yellow eye-streak, green head, and dark ear-coverts of the Formosan form. There were also two young birds of different ages of *Hydrophasianus sinensis*, which were shot on the seashore.

Another hunter returned from the interior between this port and Foochow, and handed me the following interesting species:—

Porzana bailloni.

A *Palæornis* allied to *P. schisticeps* I think:—green with a clayey-tinged head and a very short tail. The hunter says he cannot tell whether this was an escaped bird or not, but he saw it shot on a tree between Amoy and Chinchew. It bears no indications of confinement about it. The tail is singularly short, and its feathers are worn at the ends; at its roots I cannot find signs of growth. Bonaparte's 'Conspectus' does

not describe the known species of the Parrots, nor yet does any book in my possession. I must therefore defer a comparison of it until opportunity occur. *Palaeornis rosa* is the only authentic species hitherto procured from China; and, as far as my knowledge goes, Canton is its most northern coast limit.

Muscicapa mugimaki, tallying with the description in the 'Fauna Japonica,' except that, instead of black on the back, it is brownish-grey, and leaden on the rump. This may be the winter change in this species, or perhaps a sign of immaturity. If the latter, it destroys the identity of the *M. mugimaki* with the so-called *M. luteola* of Middendorff, which I once thought I had established (P. Z. S. 1863, p. 290).

Motacilla, sp.?, in many respects agreeing with my grey-backed *M. ocularis*, but with much black on the back, the black on crown advanced close on the bill, and no black eye-streak. It may be a cross between *M. ocularis* and *M. luzoniensis*.

Eophona melanura. Two males with the ends of the primary quills entirely white. I have observed this peculiarity in individuals of this species before.

Totanus brevipes in the fully adult winter plumage, as figured by Mitchell in the 'Genera of Birds,' under the name of *T. fuliginosus*.

Dec. 10th.—Received a Pheasant shot at Chefro. It is the ordinary *Phasianus torquatus*.

Dec. 15th.—My Amoy hunter brought me two Cormorants, both immature, but one with much more white on the under parts. The latter was a juvenile of *Phalacrocorax capillatus* (Temm.), the former of *P. cormoranus*, var. *sinensis* (Shaw). The wings of both are of equal length, but the toes of the former are longer, fleshier, and broader, and its tarse deeper. Its bill is longer, and the feathers advance from the rictus down the ramus of the lower mandible, and proceed halfway up the intercrural membrane into a fine point. In *P. sinensis* the facial feathers recede from the rictus, and advance again below the lower mandible into a short angle on the gular membrane. The face, skin, and pouch in this bird are brimstone-yellow, but in the *P. capillatus* orange-yellow. In the adult state the distinctions of the head are more decided, and especially so during

the nuptial season, when *P. capillatus* has its head sprinkled with long white fibres, and *P. sinensis* with narrow cream-coloured feathers.

Dec. 25th.—Went up the Amoy Creek at nearly high tide, and bagged three Curlews. They were all *Numenius major*, which assembles there in large flocks. Up the river *N. arcuatus* is the commoner species. The two are sometimes found together on the mud, though the flocks of neither kind appear to commingle; and when a Curlew is wounded, I note that individuals only of his own species come to condole with him. *N. major* can be distinguished at a long distance by its much larger bill; but I cannot say that I have discovered any difference between the wail of the two species. I believe them, however, to be quite distinct. When they first arrive from the north they are fine eating; but a stay of a month or so with us is enough to turn them fishy in flavour.

Numenius major, ♀. Bill, upper mandible wood-brown, blacker on culmen and towards tip, greyer on base-skin, and pale (approaching to flesh-colour) under the nostril and along the tomia for some way beyond line of nostril; lower mandible for half its basal length flesh-pink, the rest wood-brown. Iris deep hazel. Inside of mouth flesh-colour. Legs washed with leaden and faintly tinged with olive-green, nails deep brown.

Dissection.—Proventriculus .12 in. by .6 in. Gizzard rounded, somewhat heart-shaped, in three lobes, quite flat on intestine side, with an edge, very muscular, 2 in. in diameter, by 1 in. deep; outer lobes composed of thick muscles .7 in. thick; lower lobe containing the maw; epithelium containing remains of small *Crustacea*. One cæcum .4 in. long, .2 in. thick, the other .25 in. shorter, both bluish. About 2 feet from the anus occurs the cæcal appendage, doubled on itself, 1.5 in. long by .2 in. thick, somewhat pointed and white. Intestine white, about 4 feet long, and from .2 in. to .4 in. thick. Rings of trachea smaller and closer set than those of bronchi. Lower larynx with bony side-supports, projecting behind, and meeting in front in an open peak. Sterno-tracheal muscles given off from sides of trachea; no muscles at the lower larynx.

Dec. 26th.—A friend sent me a wild Gander shot on the flats of the Changchow River. It agrees with *Anser segetum*, but has the rump a deep blackish-brown, instead of grey. Its lower neck and breast have the feathers ashy-grey, but so broadly margined with pale yellowish-brown that the grey is almost entirely concealed. Length 31·5 in., wing 18·5 in. measured with the curve, 17·6 in. from carpus across to tip. When closed, the wing extends to over ·5 in. beyond tail, which is of fourteen feathers, and about 7 in. long. Bill black, with a pinkish-red ring behind the dertrum, ·5 in. broad on the upper, and ·25 in. on the lower mandible. Legs very bright orange, with black claws. Bill from vertex of frontal angle 2·8 in., from rictus 2·6 in., depth at base 1·5 in. Tarse 3·4 in., middle toe and claw 3·2 in.

Dissection.—Gizzard large and enormously muscular, kidney-shaped, about 5 inches long by 3 broad, the strong muscles being at top and bottom, leaving about 1 inch diameter of cavity extending through the middle. Epithelium thick and rugose, containing equal quantities of white siliceous grit, and pale moss-like sea-weed nibbled small. Intestine thick, greenish and watery.

The 11th November was my last morning on the Duck-ground, near the mouth of the river, and there was then not a Goose to be seen. The same night a strong north-easter blew; and on the 12th the flats were alive with Geese, and the first Goose of the season was shot. The measurements of this bird were precisely similar to those of the one already mentioned in total length and length of wing. It weighed over seven pounds. Its bill and legs were same as above. Head liver-brown, neck lighter. Feathers of the back margined with whitish. Tail-coverts white. *Rump deep blackish-brown*. Tail deep brown, margined and broadly tipped with white. Under parts dingy yellowish. Under-wing deep cinereous or ashy-grey. Belly and vent pure white. Entire stems of quills and basal half of those of tail-feathers white. If Selby (Brit. Ornith. ii. p. 266) is right in calling the rump of the western species *deep grey*, our eastern bird may prove to be a distinct species, or at least a good

variety. I have no sketch of the head of the true *Anser segetum* ; but the head of our bird differs from that of *A. grandis* in Middendorff's plate (Sib. Reise, ii. tab. xx. fig. 1) in being smaller and having the bill shorter, deeper, and differently shaped.

The swarms of Geese that visit our waters all seem to be of this species ; at least I have seen a good few of those shot, and have not yet noticed a different bird. In Shanghai, as I have stated before (P. Z. S. 1863, p. 323), several species of Geese are brought to the market in winter.

Dec. 29th.—Some months ago I noted that the Bunting I have hitherto called *Emberiza ciopsis*, Bp. (P. Z. S. 1863, p. 300), was quite a distinct thing and, so far as I know, undescribed. I put the bird by for a future time. Dr. Giglioli, however, who has lately been so vigorously exploring in the China field in company with Prof. De Filippi, having again brought this fact to my notice, I proceed without delay to introduce this species, in honour of my valued friend, as

EMBERIZA GIGLIOLII, sp. nov.

♂. Length 5·7 in., wing 3 in., tail 2·75 in. Legs brownish flesh-colour, with deep brown nails. Bill blackish-grey, tinged with blue. Iris hazel. A line between the bill and eye, a narrow line round eye, and the moustache-streak black. Ear-coverts and cap deep russet, the latter broadly tipped in the middle with brownish-grey. The rest of face and neck smoke-grey, nearly white on chin, eye-brow, and space between moustache and eye. Mantle light greyish-russet, the mid-dorsal feathers being black, edged with deep russet. Upper tail-coverts and two middle rectrices black, broadly edged with fine russet. Tail blackish-brown, the outer feather having its external edge and two-thirds of its inner web white, the second on the apical third of its inner web only. Primaries light hair-brown, narrowly edged with white on the apical half, and on the basal half more broadly with russet-white. Secondaries and tertials blackish-brown, edged with russet, the latter very broadly. Winglet and coverts blackish-brown, the former very narrowly edged, the latter so broadly as to hide the black of the basal portion of the feathers. Lesser wing-coverts more russet than

black, margined with light ochreous. Under wing-coverts white, irregularly waved with blackish. Under parts pale yellowish-russet, variegated with russet of deeper hues on breast, flanks, and under tail-coverts.

♀. Somewhat smaller; wing 2·7 in. Wants the black, white, and grey on the face. The ear-coverts are tinged with russet; and so are the sides of the crown, which is otherwise marked like the back. Eyebrow and throat pale dingy ochreous. Moustache lightly sprinkled with blackish. Rump and tail-coverts nearly as bright russet as in the male, but the rest of the plumage much paler and dingier. This species is in Amoy a winter visitant.

Dec. 31st. Four Teal shot up the river. They are all handsome cock birds and, according to Dr. Giglioli, of the *Aix formosa*, Brandt, which I take to be the true *Anas glocitans* of Pallas. Pallas's description (Zoogr. R.-As. ii. p. 262) answers well to our bird; and the form of trachea noted by him is precisely that of our species. My four specimens all have the bill greyish-black throughout. Their legs vary from an ochreous to a light olive tinge, browner on the toes, and blackish-brown on the interdigital webs. They differ from Selby's "Bimaculated Teal" (Brit. Orn. ii. p. 321)*, in the following important particulars:—No orange on base of bill or on legs. A broad white line on the side of the breast, where the feathers overlap the wing. Crown deep black, in some birds more or less edged with reddish-brown. Greater coverts broadly tipped with orange-buff. Sides of mantle french-grey, waved finely with black. Speculum broadly tipped with white. Upper tail-coverts olive-brown and brown, margined inwardly with ochreous. Middle tail-feathers not black, but light brown. These are the chief distinctions, and quite sufficient to show that the eastern bird is distinct from its western congener. That this plumage is not simply seasonal, I can show by a specimen I possess which died in our aviary at Amoy in June, and which is similarly marked to those now procured.

The Bluethroat, *Cyanecula suecica* (L.), has occurred in

* [This is now pretty generally admitted to be a hybrid, cf. P. Z. S. 1861, p. 393.—ED.]

Amoy; for in the first week in January 1867 my hunter brought me a fine male specimen with the red spot. I have not observed it so far south before.

The hunter also produced the skins of two green Shags differing greatly in size, but evidently of one species, of which, I think, I procured at Amoy many years ago a small specimen. This was destroyed on its way to England, and I therefore could not satisfactorily determine the species. I referred it subsequently to *Phalacrocorax bicristatus*, Pall. (P. Z. S. 1863, p. 325). The birds now in hand would appear to have their nearest ally in *P. sulcirostris*, Brandt *fide* Bonaparte (Consp. Av. ii. p. 178), having parallel *sulci* along the culmen of the bill; but our specimens have unfortunately no crest or nuptial markings to lead to a certainty of their identity. They differ from the description in having extremely fine green and purple reflexions, especially on the neck and rump. The latter in most lights is of a fine metallic green. It is possible they may be the "*Carbo sulcirostris*, Temm. ex Borneo," which Bonaparte does not describe. I will, however, for my own satisfaction support the description that follows with the name

PHALACROCORAX ÆOLUS, sp. nov.

The larger skin I take to be that of a male. From it I should judge the length of the bird to be about 28 inches; wing 11·25 in.; tail 7 inches, of twelve stiff graduated and narrow feathers, the outer ones 2 inches shorter than the middle. Bill sulcated along either side of the culmen to the nail at tip. The lines of culmen and gonys nearly straight. Bill narrow and black; length from forehead to tip 1·8 in., from gape 3 in., depth about 1 in. Skin round eye, below it, and at base of *crura* bare, rugose, and black, the feathers advancing in an acute angle well up the intercrural pouch. Legs and toes purplish-black, the comb of middle toe brown. Tarse 2·1 in., outer toe and nail 3·75 in., middle toe 3·2 in., inner 2·3 in., hind toe 1·4 in. The nails in this are much longer than in *Phalacrocorax sinensis*, except that on the hind toe, which is shorter and smaller. The fourth wing-quill slightly longer than the third, and longest. Entire plumage deep black, beautifully shot with bronze and purple, except on the quills and tail. Concealed downy por-

tions of small feathers light brownish-grey, nearly white at their roots.

Supposed female much smaller, and, according to my hunter, about a pound lighter in weight. Bill from forehead to tip 1·8 inch, bill from gape close on 3 inches; bill narrower and more graceful. Entire length of bird about 23 inches, wing 10·25 in., tail probably 6·25 in., but the feathers worn and moulting. Dorsal feathers and many of the lesser wing-coverts light bronzed-brown, margined with deeper hue. Many of the quills of both wings and tail light cream-brown, with deep leaden-coloured shafts, and with more or less deep hair-brown, chiefly on their inner webs. These are doubtless the remnants of the immature plumage; but this immaturity of the bird can scarcely account for the great disparity of size between the two specimens. Tarse 2·1 in., outer toe 3·6 in., middle toe 2·9 in., inner 2 inches, hallux 1·3 in., all including nails.

Jan. 18th, 1867.—A *Turtur rupicola* (Pall.) brought to me is only about two or three months old. I have also one of about the same age, shot in December 1865 in Formosa. Both these birds must have been hatched somewhere in the neighbourhood where they were procured. The old Doves do not show themselves in the south till the beginning of October. I should think it very probable, then, that this species repeats its incubation in its winter haunts. Our resident *T. chinensis* I have found sitting on eggs at the close of October.

Jan. 21st.—I have been handling a Coot fresh shot, and comparing it with all the descriptions of the European *Fulica atra* within my reach. In none of them (Selby's 'British Ornithology' and Temminck's 'Manuel d'Ornithologie' among others) is mention made of any white on the wings, or of black on the tail-coverts; and it is only relatively, by a remark on the absence of white on the wings of *F. cristata* by Dr. Bree (B. Eur. iv. p. 85), that I can learn of its existence in the commoner European species. I will here comment on the insufficient descriptions of home species that are too frequently given by writers on British Birds. They may serve to identify the species in the localities to which such works confine themselves; but they by no means suffice to point out the little niceties which it is necessary

now-a-days to lay hold of for the purpose of differentiating races or closely-allied species. Sometimes only one sex is described in a bird that differs sexually in plumage. As a case in point I will mention that of the Hawfinch, *Coccothraustes vulgaris*. In Mr. Tristram's collection I saw a Hawfinch from Mount Sinai. We compared it with the descriptions of all the authors that Mr. Tristram had at hand, and he had a goodly series. The male British Hawfinch only was described. We were obliged of course to suppose that the female was similar; but we had our doubts, and on returning to London I procured a pair, when, true enough, the female presented the same peculiarity of wing (which was its chief distinction from the male) as did the Sinaitic skin. To return to the Coot. The specimens I before took home from Pekin and Hankow were younger examples than the present. I compared them with an English example, and referred them to the same species. With this last procured before me, my doubts are aroused. I will add a note on this adult male procured at Amoy:—

Fulica atra?, ♂. Length 16 inches, wing 8·8 in. Bill from crest 2 inches, from rictus 1·5 in. Bare part of tibia ·8 in., tarse 2·6 in., middle toe and claw 3·9 in. Tail rounded, 2·5 in. long, of fourteen soft, broad feathers nearly smothered in the elongated upper and lower tail-coverts. Closed wing extending very slightly beyond tail. Bill and crest pale bluish-grey, nearly dead white; the former tinged on basal half with rose-colour. Iris bright rich chestnut. Legs and feet pale bluish-grey washed with olive-green, blackish at joints and near edges of web-festoons, and variegated on tarse with same. Claws compressed, except the middle one, which is falcated on its inner edge, all blackish-brown. A garter of orange-yellow, tinged with green, round tibia, just below the descent of the feathers. Head and neck black, glossed slightly with dark green. Upper parts greyish-brown with a tinge of olive, nearly black on tail-coverts and rump. Lower parts greyer, with the feathers here and there tipped with whitish. Under tail-coverts and apical third of tail deep black. Quills greyish-brown, blacker near tips, with blackish-brown stems. Edge round *carpus*, edges of

ing up the river. Made a few notes. Most of the Teal (*Querquedula crecca*) shot had their under parts stained with a clay-coloured pigment; one or two, however, had not. I cannot make out what it is, or what is the cause of it. I took down, on view of a fresh bird, the following:—

Querquedula crecca, ♂. Iris light reddish-brown. Bill blackish-brown. Legs light buff-leadен, with light purplish-brown webs and claws. Tail of sixteen feathers, the two middle ones extending beyond the rest about .25 in. and ending in narrow points. Bill of female brown.

Mareca penelope, fine old male. Iris deep reddish-brown. Upper mandible fine light French grey, with .5 in. of tip and .7 in. along apical edge black. Lower mandible also black. Legs leaden-grey, blacker on webs and claws. Tail of fourteen feathers, the two middle ones protruding into points .25 in. beyond those on either side of them. Length of bird 19 inches, wing 10.1 in., tail 4.2 in., middle feathers .6 in. longer than laterals, wings when closed 1.25 in. short of tail-tip.

Dafila acuta, ♂. Iris deep hazel, with narrow pale grey outer circle. Bill black, with a broad bluish or French grey stripe on either side from the base of the frontal angle under the nostril to the side of the *dertrum*. Legs very pale yellowish flesh-colour, variegated with shades of purplish-brown; darker tint of last on nails and on the web-membranes.

Fuligula cristata, fine old male. Iris bright chrome-yellow. Bill, upper mandible and basal half of edge of lower fine indigo-grey; broad tip to upper mandible and rest of lower deep black. Legs indigo-leadен, washed with black on tarse and on joints of toes; webs and claws purplish-black. Tail rounded, of fourteen pointed feathers.

We tried to shift our boat during the night from the north to the south branch of the river; but the pilot stuck us on the mud, and we found ourselves high and dry next morning. Took to small boats and pulled up to where the two rivers join, near Cheo-bay, about fifteen miles distant from Amoy. Several Pied Kingfishers, *Ceryle rudis*, were hovering over the stream, and small parties of Lapwings, *Vanellus cristatus*, flying over ploughed fields. Continued down the south stream, long pull

against the tide, to the walled town of Haiting. Our shooting-boat arrived later. Commenced war again against the wild fowl. The second morning the water was calm as glass, the sun fiery, and tide high. Thousands of Ducks and Geese were floating lazily on the mirror-like expanse, waiting for the out-flow, rising in flights with a rushing sound of wings as my small boat came slowly towards them. My head felt dizzy in trying to think out the different species that dotted the water before me. I observed a small group of pied birds floating in a clump. Not Sheldrakes, for two or three genuine Sheldrakes are paddling not far from them! *Mergus albellus*? Too close together! Must be a novelty in the Duck line! My heart throbs with excitement. A few strokes more, and my cartridge can reach them. The Ducks keep on fluttering away on all sides; but the pied group still remain. I fire; one pied fellow remains motionless, the rest, seven or eight in number, stream away with what speed they can, which is not much. As they rise I note the long legs and curved bill, and am annoyed to find that my new Duck is only an Avocet! My companion shot a second on another part of the marsh. It was in company with two or three others on the mud, who were "larking" with it, running backwards and forwards past one another with speed. In the two birds procured we had fortunately both sexes. I carefully compared them, as is my wont, with descriptions of the European species with which the Chinese species has been hitherto confounded; and I was not a little surprised to find that my birds present differences which justify their separation at least as a variety or *conspicies*. As in the case of the Coot, the descriptions of Temminck and Selby are too scanty to afford nice discrimination; but the peculiar marks in this Avocet are too noticeable to be omitted in even a cursory sketch of the bird, and it is curious that Pallas did not mark them in the Siberian bird. These peculiarities are not due to youth, sex, or individual variation, as my birds are of different sexes, both adult, and both have them. The Chinese species differs from the old *Recurvirostra avocetta* in having the back of the lower neck and upper back light grey, and the middle tail-feathers grey, tipped with black, instead of pure white in both

cases. I cannot tell whether it differs in other respects in plumage, without having specimens from Europe to compare with it. But in comparing its head with that figured by Wolf in Gray's 'Genera' I notice that in ours the beak is much more bent upwards, and is strongly hooked at the tip of the upper mandible, instead of being straight. Wolf's sketch, however, is evidently from a dried skin, as it does not show the roundness of the forehead and crown which most sea-birds possess before the fleshy pads above the eyes are removed by the knife of the stuffer.

RECURVIROSTRA SINENSIS, sp. nov.

Arrangement of black and white apparently the same as in *R. avocetta*. Lower eyelids white. Back of lower neck and upper back light ashy-grey, the feathers with paler edges. Tail of twelve feathers, the two outer ones on each side white, the rest light pearl-grey, edged with white; the two middle ones marked at tip with a broken blackish-brown spot, the next on each side less conspicuously so; the greyish feathers with more or less brown on their shafts. Round the coccygeal protuberance a curious tuft of short brown feathers occurs, which is concealed by the overlapping white feathers of the rump. This tuft I do not see noticed in any books of reference on the allied species, though it is remarkable enough. Length of female 17·25 in., tail 3·7 in.; under tail-coverts as long as tail, upper tail-coverts ·75 in. short of tail-tip. Wing 8·75 in., tertiaries ·75 in. short of quill-tip. Closed wing reaching to ·25 in. from tip of tail. Bill from gape to hooked tip 3·5 in., from forehead ·2 in. shorter. Bare tibia 2·3 in., tarse 3·4 in., middle toe and claw 1·7 in.; middle and inner claw falcated internally, outer toe much longer than inner, hind toe well raised and very diminutive. Legs, feet, and webs throughout a delicate bluish-grey, with bluish-black claws; soles of feet tinged with buff. Iris deep reddish-brown. Bill brownish-black.

Dissection, ♀. Cluster of numerous small eggs. Right cæcum 2·5 in., from anus 2·25 in. long; left cæcum ·2 in., nearer anus ·7 in. longer, both worm-like. Proventriculus smooth, ·8 in. long by ·6 in. wide. Gizzard covered with fat, rounded, 1·25 in. long by 1 in. broad, and ·7 in. deep, flattened at sides with

strong tendons; epithelium thick and leathery, containing green mud-like ooze and several moderate-sized pebbles. Intestine 2 ft. 9 in. long, from .3 in. to .4 in. thick, without any maggot-like cæcal appendage.

The other bird, a male, was not noticeably different in size. It had white testes .3 in. long by .1 in. thick. Gizzard contained pebbles of different rock substances, with remains of the smaller crustaceans. The trachea, not different from that of female, was .2 in. wide below *glottis*, bulging to .45 in., again contracting to .25 in., and finally forming into a lower larynx; wings rather broad. Bronchi short.

Feb. 7th.—Received a Hare, a Pheasant, and two Partridges from Chefoo. The Hare is a good deal like our English Hare, and is quite another thing from *Lepus sinensis*. The Pheasant has a broader white neck-ring, and is paler and bluer on the wing-coverts than our southern *Phasianus torquatus*. The Partridges are the *Caccabis chukar*, and agree with the Himalayan birds almost to a feather. It is curious that the light grey-blue drops on the scapulars, so beautiful in this species, and so exquisitely contrasting with the madder red-grey tint of the remaining parts of each feather, are not noted by either Dr. Jerdon or Dr. Bree. Length of bird 14 inches; wing 6.5 in.; tail 4.1 in., of fourteen feathers, graduated. Wing reaching to 2.8 in. from end of tail.

My hunter returned from the interior with a live Porcupine, certainly distinct from any of the known species, and with skins of the following Mammals:—*Viverra zibetta*, *Canis procyonides*, *Helictis moschata*, and of a beast like a large Mangouse, which, thanks to Dr. J. E. Gray's excellent Monograph of the *Viverridæ* (P. Z. S. 1864, p. 568), I have made out to be *Urva cancrivora*, Hodgs. He brought only a few birds, among which were two skins of a fine new species of the never-ending genus *Garrulax*, and a skin of what I take to be a young male of *Pericrocotus speciosus*. I can find none of Dr. Jerdon's species to match this *Garrulax*; and as I only know of two, the *G. perspicillatus* (Gmel.) and the *G. chinensis* (Scop.), besides the "Hwamei," from this part of the world, I will bring my new friend before the reader as

GARRULAX SANNIO, sp. nov.

Length of skin 8 inches. Bill from forehead .75 in., from gape 1.1 in. The other specimen is a trifle smaller, though similarly coloured, and may be a female. Tail 4.4 in., of twelve much graduated feathers, the outer ones being 1.1 in. shorter than the middle. Wing rounded, 4 inches long, the fifth, sixth, and seventh quills nearly equal and longest. Tarse 1.3 in. Legs and claws large and strong as in *G. perspicillatus*, a much larger bird, which it resembles in the orange-buff of its vent. Bill blackish-brown. Toes and claws the same, of a deeper hue, washed with leaden. Forehead, crown, and ear-coverts deep chocolate-brown, the feathers darker in the middle, and those of the forehead somewhat pointed and erectile; vibrissæ and feathers round the eye black. Lores, broad eyebrow, and broad moustache-streak white. The brown of the head blends with the greyish-olive of the upper parts, which latter is greener near the root of the tail; upper back tinged with chocolate cream-colour. Wings light hair-brown, with dark shafts, pale on edges of inner webs, which, viewed from below, give a reddish-white appearance to the closed under wing. Tertiaries and outer webs of primaries and secondaries same colour as back, lighter on apical portions of those of the outer primaries, showing in some lights almost white; tertiaries faintly barred. Tail, two middle feathers reddish-brown olive, the rest with more or less light blackish-brown; all with dark shafts and faintly barred. Belly and axillaries buff. Vent orange-buff. Rest of under parts greyish-olive*.

The large *Pericrocotus* differs from the female of Dr. Jerdon's *P. speciosus* (B. Ind. i. p. 419) in having the middle tail-feathers deep black, and not grey. Its quills are black, with an oblique band of rich golden-yellow. Its two middle tail-feathers are rich black, the vent with the greater part of its outer web and the tip golden-yellow; the rest of the feathers golden, with basal portions of shafts and oblique basal bands more or less developed,

* I saw this new species among the hills on a recent trip up the country, but did not succeed in shooting a specimen. It was in small parties, flying from bush to bush, chattering and uttering a loud call-note, occasionally appearing at the top twig of a bush and erecting the feathers of its head. It was somewhat shy, and in ordinary manners a good deal akin to *G. perspicillatus*.

black. Forehead at base of bill orange-yellow tinged with buff; orange-green to middle of crown. Lower parts deep yellow tinged with green. Tibial feathers greenish-grey. Middle of belly pure white. Occiput, upper back, and scapulars ashy-grey, indistinctly marked with green on scapulars and back. Rump golden-green. Lores shaded with a little black. Bill large, much hooked at tip, black. Some of the tertiary quills with oblong spots of golden on edges of outer webs. Length of skin 7.5 in., wing 4 in., tail 4 in. This does not answer to Dr. Jerdon's female, but may be the young male of *P. speciosus*, which he does not describe. The male tailless specimen I before procured at Foochow I identified in England with the true *P. speciosus* in the East-India Museum.

I see that Mr. Gould (P. Z. S. 1865, p. 665) has made a new species out of the Chinese pied *Henicurus*, the chief peculiarity of his *H. sinensis* being the less extent of white on the forehead. I have three specimens from Foochow varying a good deal in the expansion of this white. I carefully compared my skins with those in the East-India Museum of true *H. speciosus*, Horsfield; and though anxious to find a difference, I could discover none. I suspect that the less or greater extent of frontal white is a sexual difference. Our grey species also seems identical with the Indian *H. schistaceus*.

Feb. 20th.—The Painted Snipe, *Rhynchæa sinensis*, found by a friend abundant on some marshes up the river. He showed me several specimens that he had shot. Rock-Thrushes, *Petrocincla manillensis*, fighting and singing about the green on our hill. Two males fight while the female sits passively by. The combatants ruffle their feathers, stretch their necks, and droop their wings, occasionally jerking up the tail.

March 9th.—Returned from a week's visit to the interior with two birds new to my China list. The first is what looks at first sight greatly like a melanine form of *Lanius schach*, L. I only came across a single specimen, sitting on the top of a bush in a marshy field. It was moving its tail up and down, and from side to side, but uttered no cry. I took it for a peculiar species of *Dicrurus*. It was not known to the natives. The place where it occurred was about fifty miles north-west of Amoy.

Curiously enough, Dr. Giglioli met with the same species on the mainland, near Hongkong. In a letter to me, dated Hongkong, 13th January, 1867, he writes, "The other day I made an excursion over the Kowloon Hills to Tunkok, in Mirs's Bay. I shot there a most curious *Lanius*. It is the size of *Lanius schach*, and has the same long tail, but it differs entirely from it in colour. Besides the forehead and sides of the head, *the throat also* is of a deep black. The head, neck, back, breast, and abdomen are of a deep leaden-grey; the wings, tail, and thigh-feathers are of a deep black; the upper and under tail-coverts are of a dusky olive-colour. Can this be a case of melanism of *L. schach*? I doubt it; for in cases of melanism the distribution of colours remains the same, while in my specimen it certainly is not so. The black throat and the olive tail-coverts prove the contrary. In Bonaparte's 'Conspectus' [i. p. 364], amongst the Asiatic Shrikes, is a species named, by the French naturalist Garnot, *L. melas*. Can it be that?" It will be as well to compare Dr. Giglioli's description with that of my bird, for which I propose

LANIUS MELANTHES, sp. nov.

Frontal band, over eye, whole face, and throat black. Thighs axillaries, wings, and tail also black; remiges lighter and browner. Bill and claws black. Iris deep brown. Rest of plumage deep dusky smoke-grey tinged with buff on back, rump, and under parts; reddish-chocolate on vent. Length 9·75 in., wing 4 in., tail 5·3 in. In form very similar to *L. schach*.

Not far from the neighbourhood where the last was procured stood a large Banyan tree with an extended leafless branch. To the tip of this branch flew a diminutive bird uttering a shrill note, somewhat like that of a Titmouse, and began with quick movement to preen its feathers. My companion brought it down with a charge of dust-shot, and, as it dropped senseless into the stream below, I saw by its lively scarlet and peculiar form that it was a *Dicaeum*. I was delighted, of course. It turns out to be a male of the "Scarlet-backed Flower-Picker" of Dr. Jerdon (B. Ind. i. p. 373), *Dicaeum coccineum* (Scop.), but better known as *D. cruentatum* (L.). We looked and watched in vain for another example. The natives exclaimed at its beauty,

and said that they had never seen its like before. Its bill was black. Iris dark bright brown, and its legs blackish-brown.

Curious again! this is the second and only other bird observed by Dr. Giglioli in South China that I had not procured before. Writing to me on the 26th January 1867 from Hong-kong, he says, "The other day, amongst some bamboos near Government House, I saw a tiny bird, smaller than *Reguloides proregulus*, which emitted a very peculiar call. I was able to see him distinctly for some time. He had a short tail, slender curved bill like *Certhia*, was greyish-white beneath, green above, with a light crimson-red rump. It looked very like a *Dicaeum*. Have any been described from China?" It will be seen that this description answers well to the female of *D. coccineum*.

The country that we visited was not what one would call wooded; but copses and small groves stood about in different directions, chiefly in the neighbourhood of villages. The finest trees that composed them were Pines, Banyans, and the *Liquidambar formosana*, Hance. Every grove had its pair of small Day-Owls, *Athene cuculoides*. They uttered a series of hollow-sounding notes, and were very shy. They had not yet begun to lay. The natives called them the "Small Cat-headed Bird." The higher hills were bare of trees; but the ravines were impenetrable on account of the overgrowth of reeds and long dank grass, amongst which marks of small quadrupeds were frequent, and the odour of Civets strong. Some native hunters brought us a *Viverricula indica* that they had shot. It was a pale example, and had very faint markings. By one copse we saw the fresh dung and marks of a Tiger, and heard much of their occasional visits to the villages, but we came across none. The hunters also brought us a Partridge, *Francolinus perlatus*, which they had shot. We induced them to let us accompany them, and they twice gave us a treat with their dogs. Their hunting-dogs were smaller than the ordinary house-dog of China, known to Europeans as the "Wolf Dog." They were white, with the fleshy parts reddish. Their hair was shorter, and they were brighter-looking than the above watch-dog breed. They were called by the hunters with the singular sounds "Hoo-hō-hō-hō." They picked up the scent and followed it with ra-

pidity through the grass and bushes, their tails wagging with increased liveliness as they approached the game. They yelped only when entangled or in difficulties, and were silent when in view of the game. The hunters followed close on the heels of the dogs, their matchlocks raised, their fuses blown bright, fixed in the trigger, and ready at the shortest notice to fire. The Partridges were usually single, and lay close. They sprang close to the dogs' noses, in fact were poked up. They rose with a rapid flutter and made straight away, the hunters firing before the birds had attained a dozen yards' distance. We did not once see them hit, though they blazed on several different occasions. The arms they used were rude weapons, and we did not wonder at their missing so often. The coarse powder is shaken into the long iron tube which forms the barrel of the gun, and the shot (small irregular bits of iron) shaken on the top of it. The ramrod, consisting of a long stiff reed, appears only to be used to clean out the narrow bore. The only wonder was that they ever did hit the mark, which they do pretty faithfully when the object is fixed. Partridges were by no means common, and we had to walk a long way to put up the few that we saw. Pheasants did not occur. The Partridges ran great distances and the dogs often got the scent on the top of a hill, which they hunted for hundreds of yards, often down into the valley, before they came upon the bird. Their flesh is dry and insipid. We saw a party of Long-tailed Jays, *Urocissa sinensis*, but could not get near them. The natives there call them "Têng-bay-pin." The country was desolate and neglected in many places, not having yet recovered from the visit of the Taipings in 1865. Spots formerly carefully cultivated were now "howling wildernesses;" the smaller animals abounded, and birds were consequently very scarce. The natives shot a good deal, and the little feathered creatures were therefore much scared by the approach of the gunner and the report of his deadly weapon. The hills and woods had nevertheless their wonted charm, and we should not have been in such haste to return to our city life had the skies been more propitious and the gates of heaven withheld their merciful showers. We bought from some Chinese a Garganey, *Querquedula circia*, which would seem from its infrequency on

the coast to be quite an inland winter visitant. We saw a male *Ruticilla ferrea*, and many of *Parus minor*, *Phylloscopus fuscatus*, and *Reguloides proregulus*. The last we heard singing sweetly, and I thought, from its shaking song, that it was one of the Willow-Wrens, until my companion shot it. The song of the *Reguloides superciliosus* simply consists of a hurried repetition of its ordinary call-note. *Calamoherpe canturiens* was uttering its loud "churr" among the bushes, and occasionally bursting out with the few loud, rich notes that constitute its song. The plumage of this bird in spring intensifies and becomes of a deeper hue. Among the same bushes was a smaller bird, which frequently uttered a weaker and sharper "churr," and lay so close that the bush might be kicked before it could be got to leave; and then it would only whisk out and ensconce itself in the next. I managed to procure one fair specimen, but my wretched stuffer neglected to preserve it. I am, however, pretty confident that the species was the *Calamoherpe cantillans* of the 'Fauna Japonica,' which has not before been found to my knowledge in China south of Tientsin. This bird was pretty plentiful among the underwood in every pine-copse. The most noticeable bird on the river itself is *Ceryle rudis*, which flies past uttering its loud peculiar note, sits on the banks in parties of twos and threes, or hovers with bill down-pointed, poised about twenty yards above the water. From its elevation down like a stone it falls into the water and disappears. It returns to the surface, rises, shakes itself, and in most cases flies to land. It occasionally fishes in brackish water, but I have never seen it dip into the sea itself. The little "King of the Shrimps," *Alcedo bengalensis*, usually pounces from a perch; but it sometimes also hovers over its prey, only, however, at a few feet elevation. I have often seen it fishing in the sea. The pied bird is here called "To-he-haw," or "Fishing Tiger;" the little fellow "To-he-âng," "Fishing Reverence," or "the old gentleman that fishes."

March 16th.—Received some Teal from a friend just returned from the marshes. He reports Ducks still, but only a very few Geese. The Teal tasted very fishy, as they always do (in common with most wild fowl) towards the close of the season.

March 17th.—A fine live *Spilornis* brought to me. It had been taken in a net baited with fish at Quemoy, the fellow island of Amoy. Iris fine yellow, with outer black circle or rim to it. This is the first time that this bird has occurred to me in China.

March 21st.—Hen *Euplocamus swinhoii* laying in my aviary one egg every two or three days. Began to lay on the 17th instant.

Aix glocitans, ♂, in the aviary has a short chuckling gobble for call-note. The female bursts out occasionally with a loud, harsh, jarring note, calling to mind the cry of some large *Halcyon*. Their voices are far from duck-like.

Lieut. R. C. Beavan says (P.Z.S. 1864, p. 376) that *Copsychus saularis* “builds in bushes.” This is remarkable for so genuine a Robin as this bird is. In Amoy I have only noticed its nest in the holes of walls, banks, or houses, oftenest in some corner of the under-roof or beaming of a verandah.

Mr. Blyth, in his most interesting “Commentary on Dr. Jerdon’s ‘Birds of India,’” for which students of Eastern Ornithology cannot too much thank him, says (Ibis, 1866, p. 256), of *Ephialtes lempiji*, that there are three very similar dark-eyed races. “The largest is *E. rufitorques*, Bonap. (Faun. Japon. Aves, tab. 8, where it is figured with yellow irides, which I suspect is a mistake).” I have not handled the actual *Scops semitorques* of Japan itself; but the bird we take for it in China I have had under observation several times. I have described the iris of an adult female specimen from Canton thus, “golden burnt-sienna, but so narrow that this colour is seldom visible, the immense pupil filling nearly all the space between the lids” (Ibis, 1861, p. 30). Can this be also the case with the two other dark-eyed races of Mr. Blyth? If not, the Chinese race would seem to be the intervening step that connects the golden-eyed with the dark-eyed races of the variable *S. lempiji*.

March 23rd.—A friend sent me a Kite which he had shot. This note about the bird may be of interest:—*Milvus melanotis*, ♂ adult. Length 23 inches; wing 17·75 in., closed wing-tip from end of tail 1·25 in.; tail 11·25 in., forked, outer feathers 1 in. longer than middle. Breadth of back 5·25 in. Legs and toes clear bluish-white, with dusky-buff soles and

bluish-black claws. Irides hazel-ochre. Cere, basal edge of upper mandible and half of lower, inside of mouth, rictus, and lores bluish-white; culmen of cere faintly tinged with yellow. Apical portion of bill black, fading towards the middle. Tongue flesh-coloured, uniformly broad, and deeply sulcated down the middle. Tarse feathered in front for nearly half its length. Skin round the eye, or eyelids, blackish-brown. Ear-coverts and a narrow supercilium rich blackish-brown. Ear-covert large, horizontally oval, and placed well behind line of eye. Besides small lice, the feathers harboured a species nearly half an inch long.

Tracheal rings narrow, with wide membranous interspaces; lower larynx composed of three partly split, open rings meeting in an angle in front; bronchi formed of half rings, with only membrane on lower surface. Body fat and greasy. Testes $\cdot 7$ by $\cdot 15$ in., pointed at upper end, blunt and thicker at lower; right one a good deal the smaller. Proventriculus long and smooth. Stomach an oval fleshy sac, without much muscle. Two egg-shaped cæca $\cdot 3$ by $\cdot 15$ in. occur in the intestine about $2\cdot 25$ in. from anus. Intestine $\cdot 2$ to $\cdot 5$ in. thick, and somewhat long.

The *Spilornis* that I had alive raised and depressed the occipital part of his crest only, and looked full at me. It seems to be the same as the Formosan

Spilornis hoya. ♂ nearly adult. Length $28\cdot 5$ in.; wing $19\cdot 5$ in., tip of closed wing to end of tail $1\cdot 5$ in. Breadth of back $6\cdot 75$ in. Tail $12\cdot 5$ in., somewhat graduated and rounded. Legs dusky-ochre, much lighter on the toes and soles, the hexagonal scales of the tarse and basal half of toes having a whitened or scurfy appearance. Large scutes occur toward the extremities of the toes. Claws large, blue-black. Tarse very long, toes very short. Chin and face black. Under parts lighter than in Formosan bird, with more numerous and perfect spots. Irides, skin round eye, lores, cere, rictus, and base of lower mandible opposed to cere fine bright yellow. Outer ring of iris and outward corner of eye black. Eyelids brown, with strong eyelashes both above and below. Strong black bristly hairs also on lores, cere, and chin. Basal third of bill proper light leaden, apical two-thirds black, browner towards middle

of bill. Inside of mouth bluish flesh-colour in its depths; tongue of nearly uniform breadth, concave, and rounded at tip, on its under surface horny and brown. Ear-covert about $\cdot 45$ in. in greatest diameter, oval; longest axis inclining obliquely towards rictal angle; placed behind line of eye.

Trachea with wide membranes between rings. Lower larynx composed of three narrow rings close set, and angulated in front. Bronchial rings only half, with membranes underneath, the intermembranes between rings wider than in trachea. Testes $\cdot 5$ in. long, and very thin. Cæca short and adnate, about $\cdot 25$ in. long by $\cdot 1$ in. wide, and about 2 inches from anus. Intestine watery and thick, from $\cdot 3$ to $\cdot 5$ in., somewhat short. Proventriculus long and smooth. Gizzard fleshy, oval, and with little muscle.

March 24th.—Sent a man to Pagoda Island, to which most of our Kites resort to breed on its cliffs. Kites are early breeders here; but as I saw a pair only a day or two ago treading on the yard of a ship in harbour, I was in hopes that some nests might be found to contain fresh eggs. The man returned with two eggs only, saying that many of the nests were inaccessible, and most were empty or contained young. I left the eggs on a table in my room for four days, when I attempted to blow them. They both contained live young, nearly advanced enough to emerge. My man asserted positively that he had taken them from different nests. Kites frequent this island in large numbers. I have counted as many as sixty hovering over it at the same time. Crows (*Corvus torquatus*) are even earlier breeders than Kites. I saw fully fledged young a month ago.

In the first week in March I saw the first Swallow (*Hirundo gutturalis*); and in the middle of March the Cockchafer (*Melolontha*) swarmed in the evening, buzzing about every plant and tree.

March 31st.—Commander Broad, R.N., of H.M.S. 'Cormorant,' on his return from Formosa (Taiwan and Takow), presented me with a live *Poliornis poliogenys* which he had caught on board his ship about twenty miles out of Amoy, on his way across. He says that some twenty or thirty of these birds came about the ship about 2 A.M. that morning, alighting on the yards and

tops. They remained till daylight, when they made off, apparently in a northerly direction. The weather was calm and misty. It is curious that these birds should prefer to make their migrations over sea, when the land is so near and so much easier for them to travel along.

Poliornis polioygenys, ♀ nearly adult. Length 17·5 in.; wing 13·4 in., almost extending to tip of tail. Tail rounded, of twelve feathers, 8 inches long. Tarse 2·5 in., feathered for about ·3 in. down; middle toe and claw 1·75 in.; inner toe shorter than outer with largest of fore claws; hind claw somewhat larger. Legs and toes orange, sole-pads dingier; claws blue-black and sharp; middle claw with the inner edge projecting and cutting. *Iris bright clear yellow*, with a black outer circle. Eyelids, culmen of cere, base of upper mandible, rictus, and basal sides of lower mandible fine chrome-yellow, tinged with orange. Lores advancing on bill, greenish-yellow, scattered with fine blackish bristles. Bill brownish-black, with a central zone of whitish at edge of cere, distinct, and not blending with apical black. Roof of mouth bluish, rest of the inside flesh-coloured. Tongue sulcated, narrowed towards tip, fleshy above, bluish-horn below. Feathers supported a large louse somewhat similar to that on the *Milvus melanotis* above mentioned.

Rump, thighs, and belly covered with orange-coloured fat. Trachea and bronchi with rings set well apart, membrane between; on latter only half rings; larynx composed of several fine rings coalescing in rear and disconnected in front. Ovary with large cluster of eggs; oviduct wide and laid nearly straight. Two white minute oval cæca, about ·1 in. long, occur on the intestine, about 1·4 in. from anus. Intestine about 22·5 in. long, from ·1 to ·25 in. thick. Proventriculus long and smooth. Stomach oval, somewhat flattened at sides, greatest diameter about 1·3 in.; lateral tendons pretty strong. Epithelium furrowed lengthwise, and coated with bright green oozy matter, otherwise empty.

Poliornis teesa (Franklin) has, according to Dr. Jerdon (B. Ind. i. p. 92), the “iris pale brown or dun in the young bird, stone-white in adults.” Compare this with the colour of the iris as above noted in our bird.

